

# MARINE REVIEW.

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No. 8.

## Death of Capt. D. P. Dobbins.

From Buffalo on Saturday last came the announcement of the death of Capt. D. P. Dobbins, superintendent of the ninth life-saving district, who was among the best known men on the lakes. He was born at Erie in 1820, and although seventy-two years old was very active in his work. Before he was thirteen years old he began sailing on the William Penn, and five years later he bought the schooner Marie Antoinette. In turn he owned a number of schooners and built the propeller Troy for himself at Cleveland. His experience on the lakes as well as that gained on salt water in the winter seasons, combined with his readiness at all times to go to the rescue of shipwrecked sailors, taught him all the requirements of a life-boat. In 1876 he was appointed to the position he held at the time of his death, and not long after that he made a study of life boat construction. During the past ten years he has built over thirty of his patent boats for the government and of late has been negotiating with the English admiralty for its construction. It is probably the only non-sinkable, self-righting life boat in existence.

Capt. Dobbins' father was a pioneer lake shipbuilder and master, having cut the first timber at Erie for Perry's fleet. Previous to this he had escaped from Detroit and Mackinac when the British captured those places and was sent as messenger to notify the government at Washington. Capt. Dobbins proposed to have one of the Perry fleet, the Niagara, built by his father, raised from Misery bay, near Erie, and taken to the world's fair. He was well liked by all the keepers, and the work in his district was the most efficient in the service. The funeral was attended by the officers of the different stations in the district.

## Pig Iron Prices and Stocks.

The decline in the price of Bessemer pig iron since the first week in January amounts to \$1.75 to \$2 a ton and in gray forge 75 cents to \$1.25 a ton, but it is gratifying to note that production has been steadily decreasing. The maximum of blast furnace production thus far this year was in February, when the aggregate was about 193,000 tons per week; during March the production dropped 8,000 tons; in April it declined 8,000 tons; in May 4,000 tons; in June 4,000 tons and in July nearly 14,000 tons. The decrease in weekly output from March 1 to Aug. 1, therefore, is about 38,000 tons, or nearly 20 per cent., of which more than one-third took place in July. One year ago the total pig iron weekly capacity in blast was about 169,000 tons, against 155,000 tons on the 1st inst.; two years ago it was fully 164,000 tons, while on Aug. 1, 1889, it was 145,000 tons. Previous to the idleness of the past month in the mills stocks of pig iron were also decreasing, but they are, of course, again very large.

## Lake Freight Matters.

Lake freights are showing the effects of a reduction in the iron ore movement, which had been so very heavy previous to Aug. 1. The demand for grain tonnage in Chicago has been about equal to that of July, and at Duluth during the past week 3 cents has been paid on several cargoes to Buffalo, but the iron shippers are in a position to refuse "wild" tonnage, excepting at reduced rates, and they have taken advantage of the situation to put rates down. Docks at Lake Erie ports are more crowded than they have been in any previous year excepting 1890, and although vessels are not delayed on this account it is an obstacle to the movement of unsold ore, even at reduced rates. The sus-

pension of coal shipments on account of the Buffalo strike and crowded docks on Lake Superior is also having a serious effect on the market. It is not probable that there will be a movement of new grain any earlier than last year, and in the meantime it is about certain that the freight market will remain in its present depressed condition. Iron ore freights are \$1 from the head of Lake Superior and 70 cents from Escanaba with Marquette nominal at 95 cents. Although it is true that most of the Bessemer mines have sold about as much ore as they can produce, and that the amount of unsold ore of any kind brought down so far is not very large, it is also true that the ore not covered by season contracts with vessels has been crowded into shipments during the first half of the season. The mines

have reduced stock piles to very small proportions, and freights are, accordingly, largely dependent on the grain movement. Duluth brokers are of the opinion that there will be little doing in northwestern wheat before Sept. 20.

## Insufficient Lighting in the Sault River.

Just as had been expected, vessels trying to run the St. Mary's river on the new system of ranges have found the greatest difficulty at the foot of Sugar island, where ranges recommended by Col. Ludlow and Commander Heyerman in their plans were rejected by the senseless opposition of certain members of the light-house board. The masters of two steamers, the City of Duluth and Missoula, both of which were aground in the river Tuesday, attribute their grounding to insufficient range lights at the foot of Sugar island.

## Transportation Building, World's Fair.

A neat view of the transportation building, World's Columbian Exposition, in a supplement accompanies this issue of the REVIEW. This is the building in which the marine exhibit will be made. There is little doubt that the marine display will be among the finest at the fair. A number of lake ship builders have secured space for exhibits.



CAPT. D. P. DOBBINS.





Supplement to *MARINE REVIEW*, Cleveland, O.

TRANSPORTATION BUILDING—WORLD'S COLUMBIAN EXPOSITION.



## CHICAGO LAKE INTERESTS.

WESTERN OFFICE, MARINE REVIEW,  
No. 13 Western Union Building, CHICAGO, ILL., Aug. 25.

President Harrison's proclamation imposing tolls at Sault Ste. Marie was well received by Chicago shippers and vesselmen. Most vessel agents here expect that if the Canadian boats are crowded out of Lake Superior traffic by the tolls, they will come here. Already some of them are headed this way. It is not at all unlikely that the Canadians will capture most of the grain going to Kingston, as they will carry it at low rates. The general impression is that the shippers will have their own way with the helpless "Canuck," and will make their own rates. What the Chicago shipper would like to see would be the abolition of Canadian canal tolls altogether, so that he could ship by way of Ogdensburg or Kingston, and have a leverage on American routes at all times.

Chicago papers copied what the MARINE REVIEW had to say on smoking tugs last week, and the Herald devotes an editorial to it. The claim made that there is no other solution of the smoke question than the use of hard coal on tugs, has not been successfully refuted. Practically every tug man on the river takes this view of the case. The Society for the Prevention of Smoke is dodging the question by insisting that some steam jet device will work successfully. There is not a tug man here who does not know more about steam jet devices than the secretary and all the engineers of the smoke society. When these tug men pronounce the steam jet devices a failure, they ought to know what they are talking about. The smoke society is looking only at smoke. It does not care one whit whether a device it recommends is practicable or not. Perhaps this is all right from the standpoint of the smoke society, but it is a bad thing for the owners of furnaces, who are conscientiously trying to avoid smoke. The experience of Robert Tarrant is a good example of some of these alleged smoke preventors. Under the Cregier administration Mr. Tarrant decided to adopt a device which was recommended by the city as a sure prevention of smoke. He gave it a month's trial, and during that time the consumption of fuel in his boiler shop increased from 2,600 to 6,600 pounds per day. As he did not care to be fined or have endless complaints filed against his shop, he began burning hard coal, and has done so ever since. He has found that the cost of fuel has increased about 30 per cent. This is a good commentary on these smoke preventors. There is no better mechanical engineer in Chicago than Robert Tarrant, and yet he has found himself helpless to prevent smoke except by a large additional expense for hard coal. Tugs are now being summoned by the dozen, and before the week is over the war will be on.

Chicago has entered enthusiastically into ship building, as she does into most other enterprises after being fairly started. On the deck of the Maritana the other day men who represented at least \$10,000,000 were scattered about discussing ship building. Practically unlimited capital can now be said to be behind the shipyard on the Calumet, and that enterprise is destined to take a prominent part in lake ship building.

The South Halsted street bridge case seems to have got lost in the shuffle between the war department and the department of justice at Washington. Nothing of it has been heard since Capt. Marshall sent his report on to Washington. In the meantime the city is going right along with the construction of the objectionable bridge.

The Chicora is developing good speed. There is a red-hot jealousy between her crew and that of the City of Chicago, and there would be no surprise should these two boats, although belonging to the same line, indulge in a race some Saturday night, when they both leave Chicago at the same time. The rivalry between the two boats is so warm it is getting to be personal.

A queer sort of a bridge has been proposed at South Halsted street in order to overcome the objection of the marine interests to a bridge, the center pier of which would occupy most of the narrow and crooked channel at that point. The new bridge is planned to be lifted up above the tallest masts of schooners, the same as an elevator is raised. Two upright standards rest on either side of the river, and upon them the bridge is lifted out of the way of the passing vessel. Capt. W. L. Marshall, United States engineer, has examined the plans and pronounced them entirely feasible. He says such a bridge is in operation in England, and that it works in a satisfactory way. The commissioner of public works is also inclined to the novel structure. He is quoted as saying that it costs more to get a boat from the harbor to Twenty-Second street than it does from Buffalo to Chicago, and he thinks that the marine interests should be given some attention. The chief point about the new bridge seems to be its cost. Capt. Marshall is of the opinion that it would cost much more than the ordinary swing bridge, but the inventor does not agree with him in this. In the meantime the marine interests are hoping that the attorney general will order District Attorney Milchrist to begin an injunction suit against the city of Chicago to prevent the construction of the double-track swing bridge, now proposed. Mr. Milchrist seems much in earnest, but sometimes his enthusiasm is short-lived. If the new bridge will solve the difficulty, vesselmen will be in a thankful spirit.

## The New Mackinaw Steamers.

Special Correspondence to the MARINE REVIEW.

DETROIT, Mich., Aug. 25.—Plans have just been completed by the Detroit Dry Dock Company for the two side-wheel steamers they will build for

the Detroit and Cleveland Steam Navigation Company, to take the place of the Alpena and Mackinaw, sold to Cleveland parties recently. The REVIEW is favored with the first information concerning them. They will be 264 feet on the water line, 38 feet beam, 69 feet over the guards, and 15 feet deep. The length is about 6 feet and the beam 3 feet less than the City of Cleveland, the furnishing, fittings, finishing, and general arrangement of which will be duplicated in the new boats. The engines will be walking-beam compound, built by Fletcher, New York, the high pressure cylinder being 42 inches diameter by 7 feet 5 inches stroke, and the low pressure cylinder 66 inches by 11 feet stroke. Steam will be supplied by four 11 by 11 feet boilers, an important auxiliary being furnished in Howden's system of forced draft. This will result in the boats being faster than the two running between Detroit and Cleveland, which make 18 miles an hour when desired. While the builders are very conservative, it is thought that they will not object to the statement that the new boats will make 19 miles an hour. The most peculiar thing about the new boats is that each will have a rudder in the bow—not in front of the bow. As far back as eight feet the stem of these boats will not be over a foot thick, and the rudder will consist of a portion of the stem being fixed so that it will swing to port or starboard, as desired. This will enable the boats to run up the river at Alpena or Cheboygan, or into any harbor, and back out without the aid of a tug. It is a valuable contrivance, and there is no reason why it will not work. There may be an impression that these boats are to provide for increase of travel during the world's fair, but the idea would be exploded if it was known that from fifty to 100 passengers are turned away on each trip of the boats at present, and this, too, after every available space in hallways and cabins is taken up with cots. Very few staterooms of the new boats would have been empty had they been put on this season instead of next. The passenger business of the lakes is an unknown quantity, and the men who are building for it now will reap the harvest. Notwithstanding this, Detroit vessel men don't think favorably of the Buffalo-Cleveland line. They say that the railroads that ruined the steamboat business between those cities years ago are still running. It is claimed here that no Detroit capital is interested in the new line. The new company should have the names Alpena and Mackinaw changed to Ohio City and Queen City. The Detroit company has retained the right to use the old names if they wish—and they couldn't do better. The yard numbers of the new boats will be 14 and 116, 115 being the New York Central boat.

The Western Transit Company paid the Detroit Dry Dock Company a nice compliment when they ordered a boat with the same power, model and arrangement as the two that the Dry Dock company built for them four years ago. There are few boats on the lakes, built four years ago, that would be duplicated if their owners were going to build again. The dimensions of this new boat, to be ready for the opening of navigation next year, are 310 feet over all, 42 feet beam and 26 feet deep. The cylinders will be 23, 38 and 62 inches by 48 inches, and the two boilers will be double ended, 11½ feet by 18 feet.

If one was to go over the shipbuilding plants of the world he would probably find no such stability as is shown in the construction of the new ferry steamer here for the Straits of Mackinac. The double frames are not over a foot apart at any place, and along the water line, where the boat will be caught in the ice, there are extra frames about 8 feet long. Keelsons, probably 8 by 6 inches, run along the turn of the bilge and join at bow and stern. There is nothing in common wooden ships to compare to the heavy timber pieces at the stern.

## From Different Sources in Canada.

Special Correspondence to the MARINE REVIEW.

KINGSTON, Ont., Aug. 25.—The contractor for the Canadian Sault canal has paid a visit to Ottawa, and the result is that the work of construction will be pushed rapidly forward during the coming winter. There will be no let up as heretofore during the winter months. The date of completion as specified in the contract is the close of 1894, but owing to recent arrangements it is understood that the contractors, Messrs. Ryan and Hanley, have given assurance to the department that the canal will be ready for use during July of 1893.

A wealthy syndicate is being formed in Toronto for the construction of a fine steamer to ply between that city and Niagara Falls.

The elegant and new steamer Columbian, built in the United States for the Richelieu and Ontario company, is ashore in the Cedar rapids, St. Lawrence river, down which she rushed at the rate of 18 miles an hour. In the steering gear was Manila rope instead of wire. This snapped when in the rapids, and so did the reserve rope when connected. The current is so swift that it will take some time to release her. She is lying well up on a shelf of rock, hence she has sustained very little damage. The Columbian was built to run 18 miles an hour, but as her utmost is 15 miles the contractors had to drop \$25,000 in the price. She was also brought into the country free of duty in this way: On being completed she was taken to Newfoundland and registered, after which she was eligible for free admission. The Columbian is a beautiful boat and her enterprising owners have the sympathy of the general public in their misfortune.

The Donnelly Wrecking Company has succeeded in raising the steamer Golden Eagle, which was sunk hurricane-deck deep near Peterborough.

Capt. Garrett, formerly of the steamer Spartan, has been appointed supply agent for the Mail line at Toronto.



### Record of Speed and Big Cargoes.

[Masters or owners are invited to report improvements on this list.]

Iron ore: Maritana, Minnesota Steamship Company of Cleveland 4,260 gross, or 4,771 net tons, Escanaba to South Chicago; Maryland, Inter-Ocean Transportation Company of Milwaukee, 3,663 gross, or 4,103 net tons, Escanaba to South Chicago, draft 17 feet 4 inches; Western Reserve, Peter Minch of Cleveland, 3,314 gross, or 3,717 net tons, Escanaba to Ashtabula.

Grain: E. C. Pope, Eddy Bros. of Bay City, 125,730 bushels of corn, Chicago to Buffalo, draft 14 feet 8 inches; Western Reserve, Peter Minch of Cleveland, 112,431 bushels of wheat, Chicago to Buffalo; W. H. Gilcher, J. C. Gilchrist of Cleveland, 114,982 bushels of corn, Chicago to Buffalo.

Speed: Owego, Union Line of Buffalo, Buffalo to Chicago, 889 miles, 54 hours and 16 minutes, 16.4 miles an hour; Saranac, Lehigh Valley Line of Buffalo, Buffalo to Lime-Kilns, 240 miles, 15 hours and 10 minutes, 16 miles an hour.

### Iron Mining.

VALUE OF LEADING STOCKS.

Quoted by Chas. H. Potter & Co., No. 104 Superior St. Cleveland, O.

Stocks.	Par Value.	Bid.	Asked.
Cleveland-Cliffs Iron Company.....	\$100 00	\$.....	\$ 70 00
Champion Iron Company.....	25 00	.....	60 00
Chandler Iron Company.....	25 00	44 00	.....
Jackson Iron Company.....	25 00	.....	95 00
Lake Superior Iron Company.....	25 00	43 00	44 00
Minnesota Iron Company.....	100 00	73 50	77 00
Pittsburgh & Lake Angeline Iron Co.....	25 00	.....	140 00
Republic Iron Company.....	25 00	.....	13 25
Ashland .....	25 00	.....	.....
Section Thirty-three.....	25 00	.....	7 50
Brotherton.....	25 00	2 00	2 50
Iron Belt.....	25 00	2 25	2 50
Aurora.....	25 00	8 25	.....

Shipments from the Mansfield to date foot up about 45,000 tons. The company is understood to have sold 80,000 tons. The Dunn has shipped 85,000 tons and will undoubtedly make an output of 150,000 tons for the season, against 167,000 tons in 1891.

The Cleveland and Lake Angeline companies are discussing the question of sinking a union shaft between their lines in the Lake Angeline basin, the location proposed now being covered by water. Whether this work will be commenced this fall or not has not yet been decided upon.

There is no truth in the report that the Champion Mining Company has sold 275,000 tons of ore. The mine has never produced more than 225,000 tons in a single season. Mr. H. H. Brown, Cleveland representative of the company, says that some ore has been sold and shipments are being made from the stock pile, but the statement that sales amount to 275,000 tons is ridiculous.

With almost three months left, during which shipments of ore may be made from Ashland, the movement from that port on Aug. 17 was 71,279 tons more than the entire movement during 1891. The figures were 1,324,605 gross tons shipped on Aug. 17 of this season against 1,253,326 gross tons shipped during the entire season of 1891. Heavy sales of Bessemer ore this season is, of course, the cause of this increase. Shipments from Ashland during the entire season of 1890 aggregated 2,174,556 gross tons. It is more than probable that the big record of 1890 at this port, at least, will be overreached during the present season, as to do this an average weekly movement of but about 60,000 tons will be required.

Shipments of iron ore from Two Harbors up to and including Wednesday, Aug. 17, aggregated 670,746 gross tons, of which 384,969 tons were from the Chandler, 282,433 tons from the Minnesota, 2,265 tons from the Pioneer and 1,079 tons from the Zenith mine. On the same date shipments from Ashland aggregated 1,324,605 gross tons, divided among the different mines as follows: Ashland 111,841 tons, Aurora 188,006, Colby No. 2, 37,584, Rand 15,536, Tilden 147,285, Taylor 12,783, Globe-Ashland 5,309, Iron Belt 92,162, Montreal, north vein, 21,920, Palms 34,655, Section 33, south vein, 2,362, Section 33, north vein, 3,133, Anvil 1,696, Brotherton 66,031, Comet 19,198, Carey 18,977, Newport 63,233, Imperial 2,446, Norrie 257,802, East Norrie 125,877, Odanah 1,286, Pabst 25,255, Eureka 5,084, Sunday Lake 38,628, Windsor 15,503.

It is reported from Duluth that in the W. H. Oliver lease of the Mesaba Mountain mine the advance royalty of \$75,000 has

been paid. Details of these leases as published seem almost incredible. In this case it is said that the minimum output is 400,000 tons a year at a royalty of 65 cents a ton. "At the Mountain Iron," the dispatch adds, "the plow used in stripping turns up 62 per cent. ore in the second furrow. In spots the ore is found just under the leaves. The ore is not over 4 feet from the surface over a length of 400 feet and an unknown width. It is soft blue hematite of excellent quality. At the Biwabik stripping is progressing with a steam shovel. The cost of stripping and moving the dirt several thousand feet with tram cars and horses is 17 cents a yard. It is expected that steam cars will reduce it to 10 cents a yard. The average depth of stripping is 30 feet with 60 feet of ore below."

### Actual Investment in Cuban Iron Mines.

About \$5,000,000 has been actually invested up to this time in the building of railways and docks for the development of iron mining properties in Cuba, and yet only one of the three American companies engaged in this enterprise has shipped any of the ore. There has been no halt in the work but mining operations go slow, even under favorable conditions. This estimate of expenditures is made by Mr. S. P. Ely, vice-president and general manager of the Spanish-American Iron Company, in which C. L. Colby, Colgate Hoyt and C. W. Wetmore of New York are leading stockholders. Mr. Ely has been spending a few weeks in Cleveland but will shortly return to Cuba to conclude preparations for shipments by his company of 200,000 tons or more of ore next year. The Spanish-American company's railway and docks at a new port that has been established near Santiago de Cuba are about completed, and the Sigua company, controlled by Philadelphia capitalists, is also about ready to begin shipments. The Juragua company, which is virtually the Pennsylvania Steel Company, was first to begin work on the Cuban range, and in addition to a large quantity of ore shipped during two years past will produce about 400,000 tons this year.

Mr. Ely says that Spanish laws and the many other disadvantages encountered by corporations seeking to establish any enterprise on a large scale in places like the island of Cuba are against the formation of any large number of companies or the creation of a boom in the district similar to that following the opening of new ranges in the Lake Superior region. As leading stockholders in the American Steel Barge Company are interested in both the Spanish-American and Sigua companies of Cuba, it may be expected that preparations will soon be made for whalebacks to bring the Cuban ore to this country.

### Close to the 5,000-ton Mark.

With the addition of 1 per cent. carried without charge by all boats in the iron ore trade as an allowance for moisture, the cargo taken out of Escanaba for South Chicago Monday by the steamer Maritana foots up 4,260 gross or 4,771 net tons. On a draught of 18 feet, or a few inches more than the draught on which this cargo was taken, the Maritana and her sistership Mariposa, will carry 5,000 net tons without any difficulty, and it is certain that the larger steel steamers now building at the yards of the Detroit Dry Dock Company and F. W. Wheeler & Co. will improve upon this record. The Mariposa is about to load her first cargo at Two Harbors and will undoubtedly bring a large load of ore through the Sault canal. She was given a trial trip in Cleveland Tuesday. Representatives of the Globe company and the owners, the Minnesota Steamship Company, were aboard and the trip was satisfactory in every way.

The whaleback steamer Thomas Wilson last week brought a cargo of 2,646 gross tons from Lake Superior on the canal draft of 14 feet 9 inches, and the Onoko, which held the record of big cargoes for a long period, carried 2,496 gross tons on a like draft.

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# Lake Carriers' Association.

M. A. BRADLEY, President.

VICE-PRESIDENTS: { James W. Millen, Detroit, Mich. John G. Keith, Chicago, Ill.  
Frank J. Firth, Erie, Pa. W. S. Brainard, Toledo, O.  
Thomas Wilson, Cleveland, O. R. P. Fitzgerald, Milwaukee, Wis.  
Peter F. Miller, Buffalo, N. Y. Alex. McDougall, Duluth, Minn.  
Charles H. Keep, Secretary, Buffalo, N. Y. Geo. P. McKay, Treasurer, Cleveland, O.  
Harvey D. Goulder, Counsel, Cleveland, O.

## NEW SCHEDULE OF WAGES.

At a regular meeting of the association on Monday last it was decided to advance the maximum rate of wages for wheelmen, firemen and seamen to \$40 a month. The new schedule of wages, which will go into effect on Sept. 1, is as follows:

ON STEAMERS.		PER MONTH FOR SEASON.
FIRST CLASS—Metal steamers having water bottoms and triple expansion engines:		
CHIEF ENGINEER .....	\$115 to \$125	
SECOND " .....	75 to 80	
SECOND CLASS—Metal steamers not included in class 1, and wooden vessels with triple expansion and with compound engines, except the smaller boats which may be put in class 3:		
CHIEF ENGINEER .....	100 to 115	
SECOND " .....	70 to 75	
THIRD CLASS—Smaller boats with high pressure or low pressure engines, or with compound engines, covering all boats not included in the two former classes:		
CHIEF ENGINEER .....	80 to 100	
SECOND " .....	60 " 70	
FIRST MATES .....	60 " 80	
SECOND " .....	45 " 60	
COOKS .....	45 " 55	
PER MONTH.		
HELPERS .....	15.00 " 20.00	
FIREMEN .....	35.00 " 40.00	
WHEELSMEN .....	35.00 " 40.00	
LOOKOUT .....	30.00 " 37.50	
DECK HANDS .....	15.00 " 20.00	
OILERS (when carried) .....	30.00 " 37.50	
FIREMEN—fitting out and laying up, \$1.50 per day and board themselves.		
ON CONSORTS AND SAIL:		
FIRST MATES .....	\$45.00 " 60.00	
SECOND " .....	37.50 " 45.00	
COOKS .....	30.00 " 37.50	
SEAMEN .....	35.00 " 40.00	
BOYS .....	16.00 " 20.00	

## SUCCESS OF THE ASSOCIATION.

The present season of navigation has advanced far enough to demonstrate the advantages of one general body of lake vessel owners, and there is little doubt now that when the second annual meeting of the new Lake Carriers Association is held in Detroit next winter it will be simply a ratification of the work of an organization well planned and carefully managed by the officers entrusted with the active detail involved in its affairs. Its expenses have been high, especially in the cases of some of the transportation companies owning big fleets of vessels, but the officers of these companies are most earnest in its support. Not a hitch has occurred in the management since its organization, labor questions have never been handled with more general satisfaction, and appropriations for improvements secured from the last congress were larger than in any year within the history of lake business.

Secretary Keep will probably go to Washington to learn the plans of the officers of the light-house board with reference to all aids to lake navigation secured in the last civil sundry appropriation bill, and to present the suggestion of the vessel owners in regard to the light-ships to be established in the vicinity of eleven-foot shoal and the appropriation for the maintenance of the Lime-Kilns float lights.

SEND 50 CENTS IN STAMPS TO THE MARINE REVIEW FOR TEN PHOTOTYPES AND GRAVURES OF LAKE STEAMERS NEATLY BOUND.

## The Proclamation—How Vessel Owners Look at it.

Coal from United States ports on Lake Erie to Port Arthur, Fort William and one or two other smaller Canadian ports on Lake Superior is carried in American lake vessels through the St. Mary's Falls canal. Some grain is also shipped from the same Canadian ports on Lake Superior in vessels of the United States to Buffalo, and there is a business fairly large, also in grain, between Duluth and Kingston. The proclamation of President Harrison regarding tolls at the St. Mary's Falls canal naturally caused some comment among lake vessel owners, at the opening of the present week, regarding the extent of trade of this kind. In a few instances Cleveland dealers in soft coal, who have made small sales at Fort William, telegraphed the consignees inquiring as to their ability to take the coal before Sept. 1, but outside of this little attention was paid to the possibility of any loss to American interests on account of the proclamation. In fact it was known to most vessel owners and shippers that this phase of the question had already been discussed in Washington, and in any event the business in these lines for United States vessels is not large enough to attract general attention. The order of the president is accordingly sustained to the end, and, although it is confidently expected that the Canadian cabinet will see the error of its position and abolish the Welland and St. Lawrence canal rebates, the lake shipping interests stand ready to see the course of the home government fully carried out, as the proposed system of tolls at Sault Ste. Marie will act only against Canada.

The history of this question leading up to the proclamation of Saturday last is fully understood on the lakes, so that it is enough to print here the concluding paragraph of the proclamation, which shows that the president, although given greater power, intends to go only as far at the Sault as Canada has gone in the Welland. Canadian vessels must pay the United States 20 cents a ton in toll if they pass through the Sault Ste. Marie canal. So must American vessels if they are bound to Canadian ports. The order will go into effect Sept. 1. In the meantime if Canada opens the Welland canal to the free passage of American vessels the proclamation will be withdrawn. The concluding paragraph referred to is as follows:

"Now, therefore, I, Benjamin Harrison, President of the United States of America, by virtue of the power to that end conferred upon me by the act of Congress, approved July 26, 1892, do hereby direct that from and after Sept. 1, 1892, until further notice, a toll of 20 cents per ton be levied, collected, and paid on all freight of whatever kind or description passing through the St. Mary's Falls canal in transit to any port of the Dominion of Canada, whether carried in vessels of the United States, or of other nations; and that to that extent I do hereby suspend from and after said date the right of free passage through said St. Mary's Falls canal of any and all cargoes or portions of cargoes in transit to Canadian ports."

## The Big Passenger Boats.

At the Globe Iron Works Company, Cleveland, work was begun this week on the two passenger steamers for Lake Superior service that are to cost about \$500,000 each, have engines of about 6,000 horse power and make 20 miles an hour. The contract with President James J. Hill of the Great Northern Railway for these boats was undoubtedly hurried by the close arrangement on lake business made a few days ago between his company and the Lehigh Valley, or Reading, which now controls the latter railway and its lake line. A great deal has already been said about these steamers. They will be 360 feet keel, 380 feet over all, 44 feet beam and 26 feet moulded depth, but much of the detail regarding cabin arrangements and machinery has as yet not been definitely decided upon.

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Copper cargoes valued at \$650,000 were taken to Buffalo last week from Lake Superior by the steamer Norwalk and consort Lozen.

Borings are being made by the Chicago Ship Building Company for a dry dock at South Chicago, and it is as well as settled that the work of construction will begin at an early date.

Dubois Manhattan Steamboat Guide, published at 287 Broadway, New York, is valuable to any one expecting to take a trip on any of the waters of the Atlantic, or eastern inland rivers. The price is 10 cents.

Work has been commenced on an addition to the Lehigh coal docks at West Superior that will give the company about 25,000 tons more storage capacity. The addition will be 100 feet wide and 1,000 feet in length and will cost \$25,000.

The wreck of the burned steamer Winslow was raised at Duluth Saturday and towed into shoal water. The engine, boiler and remaining portion of the coal cargo will be removed and the hull repaired for service by Capt. B. B. Inman.

Isaac Watt and Thomas F. Hayes of Windsor, Ont., and Aaron A. Parker, Byron Parker and James W. Millen of Detroit are seeking incorporation as the Isaac Watt Wrecking Company (limited), with headquarters at Windsor and a capital of \$20,000.

The Canadian wrecker Saginaw has received a thorough rebuild and is about ready for service. Her equipment and wrecking ability is much better than before she was burned. Parker & Millen are agents for the Saginaw, which is owned by a company incorporated in Canada.

The laying of the keel for the world's fair passenger whale-back steamer, which has been delayed pending the resumption of operations of the West Superior steel plant, began Monday. The interior of the vessel will be only roughly finished for the world's fair trade. The boat will be 350 feet in length.

A Bay City report says that F. W. Wheeler & Co.'s plan of floating the government light-ships through the St. Lawrence canals with air bags proved a failure. A week was consumed in taking one of the boats from Kingston to Montreal. The pontoons had to be finally used to raise the vessel to necessary draft.

The Detroit Boat Works is finishing the last of the eight small boats for the government light-ships built by F. W. Wheeler & Co. In the steam launch department is a handsome ten-mile launch, with a Shipman engine. It is for parties in Mexico. The Bonita and Visitor, built by this company this summer, are successful boats. The Bonita is on the St. Lawrence, and the Visitor is engaged in passenger business at Put-in-Bay.

Capt. James Davidson of West Bay City has sold the new wooden steamer City of Venice, one of the boats built last winter, to Thomas Cranage and J. W. McGraw of West Bay City and F. S. McGraw of Buffalo, representatives of the McGraw Steamship Company, which owns the City of Paris, another of the big boats recently built by Davidson. The City of Venice is now on her second trip down. She is 326 feet long, 43 feet beam and 26 feet molded depth. With the present stage of water at the Sault she carries 85,000 bushels of wheat from Duluth.

#### Notice to Mariners.

The light-house board has authorized the placing of three black spar buoys to mark the edge of the new channel at Strawberry island, Niagara river. The red spar buoys known as Mink island and Elbow buoys will be discontinued.

Following the list of lights and fog signals on the great lakes sent out from Washington last week, the light-house board has issued a list of beacons, buoys and day marks. Copies of these very useful pamphlets can be had on application at the office of the MARINE REVIEW, or they will be sent free of charge

to any shipmaster applying to the light-house board, Washington, D. C., to the inspector of the ninth light-house district at Chicago, to the inspector of the tenth light-house district at Buffalo, or to the inspector of the eleventh light-house district at Detroit. The board again renews the following notice: "Mariners and others interested in commerce and the preservation of life and property from loss by shipwreck on our coasts are earnestly requested to give prompt information to inspectors of cases in which any of the buoys or day-marks are out of position, and of all cases in which the published instructions from the board are not strictly executed, that the board may, with as little delay as possible, apply the proper remedy, and prevent neglect of duty in matters connected with the day-marks of the United States."

#### Personal Mention.

Mr. W. D. Rees, of the Republic Iron Company, is reported among late visitors to the new Mesaba iron range.

Waldo Avery of Detroit, who has been in Europe with his family for some time past, will probably not return for a month to come.

William Potter Pattee, famous marine architect of New England, died at his home in Bath, Me., last week, aged sixty-three years.

Secretary Keep, of the Lake Carriers' Association, attended a meeting of the financial committee in Cleveland Monday. He had just resumed work after a short vacation.

Cleveland has a woman pilot. The local inspectors have granted a special license to Mrs. Emma B. Gedeohn, to command a pleasure yacht, the Emma, 35 feet long.

Capt. C. C. Goodwin, keeper of the Cleveland life saving station, is a candidate for the position of superintendent of the ninth life saving district, made vacant by the death of Capt. D. P. Dobbins. His application has received the endorsement of a large number of vessel owners.

John Shaw, manager of the Eddy-Shaw fleet, was in Cleveland Wednesday. Mr. Shaw expects to see the big new straightback steamer of his line in commission before fall, although he does not look for many cargoes from her. This is the boat building at the Wyandotte yard of the Detroit Dry Dock company.

Our Chicago correspondent says: "Friends of John Gordon in Chicago, where he resided so many years before going to Buffalo, were greatly pleased at his appointment as general manager of the new Lehigh Valley-Great Northern combination on the lakes. Mr. Gordon will receive a handsome reception at the hands of his old associates, the line agents, when he again makes his appearance in Chicago. When he left he was given a dinner at the Union League."

First Lieut. William L. Sibert, corps of engineers, U. S. A., has been ordered from duty at Bowling Green, Ky., to report to Gen. O. M. Poe at Detroit. Gen. Poe has been overcrowded with river and harbor work, in addition to having the engineer work of the light-house service in the ninth and eleventh districts thrust upon him, pending a hearing of Col. Ludlow and Commander Heyman before the light-house board. It is very probably intended that Lieut. Sibert will assist Gen. Poe with some of the extra work.

As had been expected, Mr. T. F. Newman has resigned his position as general agent of the Detroit & Cleveland Steam Navigation company, to take effect with the close of the present season of navigation, when he will take up the management of the new Cleveland-Buffalo freight and passenger line. Everybody in the marine business in Cleveland is wishing the new line success on Mr. Newman's account. He has shown a very smooth and successful management of the affairs of the Detroit and Cleveland boats in Cleveland.

C. A. Macdonald of Chicago, Eugene Harbeck of Detroit, W. J. Sandrock of Buffalo, all representatives of the underwriters who held risks on the steamer Susan E. Peck, sunk in Sault river last season through collision with the steamer Aurora and consort Adams, were in Cleveland Wednesday and held a conference with John Corrigan, owner of the Aurora and Adams. Capt. John Green, owner of the Peck, F. H. Canfield, admiralty lawyer of Detroit, and Harvey D. Goulder were also present. The owners submitted a proposition that will be considered by the underwriters.



# MARINE REVIEW.

DEVOTED TO THE LAKE MARINE AND KINDRED INTERESTS.

JOHN M. MULROONEY, . . . . . } PROPRIETORS.  
F. M. BARTON, . . . . . }  
HOMER J. CARR, . . . . . Associate Editor and Manager Chicago Office,  
Western Union Building, 110 LaSalle Street.

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SUBSCRIPTION—\$2.00 per year in advance. Convenient binders sent, post paid, 75 cents. Advertising rates on application.

The books of the United States treasury department contain the names of 3,600 vessels, measuring 1,154,870.38 tons in the lake trade. In classification of this fleet the lakes have more steamboats of 1,000 to 2,500 tons than the combined ownership of this class of vessels in all other sections of the country. The number of vessels of 1,000 to 2,500 tons on the lakes on June 30, 1891, was 310 and their aggregate gross tonnage 512,787.58; in all other parts of the country the number of this class of vessels was, on the same date, 213 and their gross tonnage 319,750.84. The classification of the entire lake fleet is as follows:

Class.	Number.	Tonnage.
Steam vessels .....	1,592	756,751.53
Sailing vessels.....	1,243	325,131.06
Canal boats.....	703	72,515.42
Barges.....	62	20,472.37
Total.....	3,600	1,154,870.38

Tonnage built on the lakes during the past five years, according to the reports of the United States commissioner of navigation, is as follows:

	No. of boats.	Net Tonnage.
1887.....	152	56,488.32
1888.....	222	101,102.87
1889.....	225	107,080.30
1890.....	218	108,515.00
1891.....	204	111,856.45
Total.....	1,021	485,042.94

St. Mary's Falls and Suez canal traffic: Number of boats through St. Mary's Falls canal in 1890, 228 days of navigation, 10,557; tonnage, net registered, 8,454,435. Number of boats through Suez canal during 1890, full year, 3,389; tonnage, net registered, 6,890,014. Number of boats through St. Mary's Falls canal in 1891, 225 days of navigation, 10,191; tonnage, net registered, 8,400,685. Number of boats through Suez canal during 1891, full year, 4,207; tonnage, net registered, 8,698,777.

Entered at Cleveland Post Office as Second-class Mail Matter.

A FEW days ago Secretary Foster of the state department called for a conference of representatives of lake shipping interests on the canal toll question, and, although it was not generally known, the delegates from different lake districts were called together for the purpose of determining whether the collection of tolls on freight bound through the St. Mary's Falls canal to Canadian ports might seriously interfere with the interests of United States vessels in carrying such freight. Certain representatives in the conference who sought statistical information bearing upon this phase of the canal tolls question were forced to go to Washington without it, and it is certainly not complimentary to the system governing commercial statistics on the lakes to have the fact known that even had the state department done its utmost to obtain this information it could not be had. Grain is carried in American vessels through the canal from Duluth to Canadian ports below Lake Ontario; it is also carried exclusively in Canadian vessels from Fort William and Port Arthur to the same ports, and in American vessels from Port William and Port Arthur to Buffalo. There is also an extensive movement of coal from American ports on Lake Erie to Canadian ports on Lake Superior. The officers of the canal keep full and reliable reports of this traffic as far as it refers to the business of the canal, but on account of the port system of laws governing the arrival and departure of vessels from American lake ports, there was no way in which the information sought in this case could be obtained. Fortunately the extent of this traffic could be estimated and it was not absolutely necessary to have the required information at hand, but the case again serves to show the need of regulations that will give definite figures on the extent of lake commerce. In the Fifty-first congress and in the first session of the present congress bills

with this end in view have been introduced, but they did not have full support from lake vessel owners. The necessity of such legislation is admitted on all hands, and now that lake shipping interests are fully represented in the reorganized Lake Carriers' Association a measure covering this subject should be prepared and presented at the next session. A law protecting all branches of the lake trade from undue annoyance can be framed. The next session of congress will not be a busy one for the officers of the association and this duty rests with them.

FOR information of a reliable character, so far as ship owning and ship building is concerned, Lloyd's Register of British and Foreign Shipping holds a very high position. This register, issued annually, has contained for several years past statistics regarding ship building that are, however, misleading as regards the United States. The register for 1892, from which statistics are now being printed in all parts of the world, contains for instance tables that credit the United States with having built in 1891 only 13 steam vessels, and only 169 vessels of all kinds over 100 tons register. It is probable that the great English institution of underwriters takes account only of vessels built for ocean service, but if such is the case it should be so stated, at least by American newspapers that print these statements. The annual reports of the commissioner of navigation show that there was built on the lakes in 1888, 222 vessels of 101,102 net tons; 1889, 225 vessels of 107,080 tons; 1890, 218 vessels of 108,515 tons; 1891, 204 vessels of 111,856 tons. This summary includes, of course, vessels of all sizes, but the figures show that for the four years they will average about 500 net tons. A large number of the steel vessels that make up the new tonnage here referred to is insured at Lloyd's, and yet no account is taken of it in presenting a statement of the world's tonnage, or of vessels built by the different nations. No country in the world has an inland water commerce or an inland ship building industry that compares with that of the great lakes, and such statements from Lloyd's and other foreign shipping agencies should be taken with allowances in this regard.

EVERY day brings evidences of a centralization of power and a reduction of operating expenses in the different branches of lake business, brought on by increasing competition. The history of all great commercial lines of trade throughout the country is repeating itself on the lakes. Just now a forcible reminder in this regard is the announcement that through a consolidation or close business arrangement the steamship lines of the Great Northern and Lehigh Valley, or Reading, companies are to be placed under one management. The vessels of these lines, now running between Buffalo, Duluth and Chicago, number seventeen and have a combined registered tonnage of 23,310. They are valued at \$2,900,000. The two passenger boats to be built for the line will add another million to the value of its floating property.

Sealed proposals will be received at the United States engineer office, Burlington, Vt., until Sept. 8 for the following work: Removing 2,000 cubic yards slate rock from a ledge in Otter creek, Vt.; for dredging 21,000 cubic yards from Great Chazy river, N. Y.; for furnishing 9,000 cubic yards stone and constructing 135 feet breakwater at Rouse's point, N. Y. for blasting and dredging 92,000 cubic yards from Ogdensburg harbor, N. Y. Proposals will also be received at the United States engineer office, Grand Rapids, Mich., until August 27 for dredging Frankfort Harbor, Mich. The United States engineer office of Detroit, Mich., will receive proposals for dredging Black river at mouth and at Port Huron; also for dredging bar at mouth of Saginaw river, west channel above and below Bay City. Harbor improvement proposals will be received until Sept. 12 by United States engineer, Milwaukee, for the following: Green Bay, dredging 120,000 yards; Sheboygan, Wis., 200 feet pier; Port Washington, Wis., 200 feet pier; extending Milwaukee breakwater 500 feet; pier and pile work, Milwaukee harbor; 250, 150 and 326 feet of pier at Racine, Kenosha and Waukegan, Wis.



### Light-house Service.

The cost of maintaining the light-house establishment of the United States is constantly increasing, and at the present time is about \$4,000,000 per annum. The first light-house built on the American continent was erected at the entrance to Boston harbor on Little Brewster island in 1715-1716, at a cost £2,285. It was erected by the order and at the expense of the province of Massachusetts Bay, and it was supported by dues of one penny per ton on all incoming and outgoing vessels, except coasters, levied by the collector of imports at Boston. From that humble beginning has sprung the present great light-house system of the United States, which, with the exception of that of Great Britain, is the most magnificent in the world. Great Britain maintains on her own coast and that of Ireland 817 light-houses. The United States maintains 802, divided as follows:

Atlantic coast.....	467
Gulf coast.....	79
Pacific coast.....	38
Northwestern lakes.....	218

There are in addition a large number of beacon and post lights on the Mississippi and other great navigable rivers.

### Enormous Cost of Ship-Canals.

Considerable attention has been given of late by engineers in this country to the Manchester ship-canal, on account of various canal projects that have enlisted support before congress during the past two or three years. A writer in the Engineering and Mining Journal discussing the question of cost, which in two or three of the American projects would be enormous, presents some interesting figures. It was estimated that the Manchester canal would only cost a matter of £9,000,000, including the purchase of the land, but the eventual expenditure will be more nearly £17,000,000 than the first sum named. The line of the canal, only 35 miles long, runs through the most favorable country; there are no hills to be encountered and the material excavated is either alluvial deposit or new red and Permian sandstone. In addition to this the course followed in many places coincides with the channel of the Mersey river. When the work was started five years ago the contract for the construction was let to the famous contractor, Mr. T. A. Walker, for five and three-quarter million pounds sterling. Unfortunately, Mr. Walker died before half of the undertaking was finished and the canal company took the matter into its own hands. Since that time things have gone badly and additional time and capital had to be asked for. Finally, when the market reputation of the canal became zero, the corporation of the city of Manchester stepped in and loaned another £3,000,000, at the same time becoming practically the controllers of the scheme. A few months ago the additional capital showed signs of giving out and the committee of the corporation was asked to bring in an estimate for the remainder of the work. English papers of recent date contain a report of this committee. They state that one and a half million pounds sterling will still be required, even though all unnecessary works are shelved for the present, so that in all probability quite another £3,000,000 will have to be found before the canal is in proper working order. The secret of this gradually increasing estimated cost of the undertaking lies in the fact that engineers and promoters were afraid to give a true and accurate estimate at first, as its magnitude would have frightened investors away. It is remarkable how expensive the construction of a large canal is. At first sight it is impossible for the layman to imagine that such a piece of work should be anything else but cheap, for really there is nothing in it but removing earth and building walls.

It will be a long time before the shareholders in this concern will see their money back, or even a vestige of dividend on it. Not only is there this serious financial burden on the canal, but since its inception three sources of competition have sprung up to handicap its success. The canal was originally designed to bring raw cotton up from the Mersey estuary to Manchester, and to ship back the finished export goods, and thus to get rid

of the high railroad rates for transportation between Liverpool and Manchester. In early days cotton spinning was carried on almost exclusively in Manchester, but of late years the industry has migrated to the surrounding districts in South East Lancashire; so that, although the raw cotton may be brought by water up to Manchester, it will still have to be taken by railroad to the mills in the surrounding towns. Then again, the railroads from Liverpool have a large number of new tubular frame steel freight cars ready for the opening of the canal, and they intend to reduce the freight rate on these trains to such a point as to enable them to compete with the low canal rates. The third drawback is not local, but consists in the growing competition of the United States as a consumer of raw cotton.

### The New Aids to Navigation.

Col. Jared Smith, engineer of the tenth light-house district, which covers that part of the Detroit river where most of the aids to navigation secured from the last congress are to be established, says it is his intention to have the range lights at Mamajuda, Grosse isle and Grassy island in readiness for the opening of navigation next season. The government float lights at the Lime-Kilns to replace the present lights and the new light-ship at Bar point will be provided for by Commander Woodward, the naval officer of the district. The new light-ship at Bar point can hardly be expected before next season, but it is hoped that the district naval officer will make arrangements so that the government will assume the expense of maintaining the Lime-Kilns lights as well as the Ballard's reef light toward the close of this season.

Most important among the provisions of the act through which these different aids have been secured, however, is the clause providing that the \$60,000 appropriated for a light station on Eleven-foot shoal be applied for the construction or purchase of one or more light-ships on the lakes. Four wooden light-ships can be built and equipped for this \$60,000, and it is the opinion of all vessel masters engaged in the Escanaba trade that all four of them are needed at the Green bay entrance, where it was originally intended to expend the appropriation. These light-ships could be located as follows: One inside of Poverty passage, where stakes now mark the channel; another at Drisco reef; a third to mark the turning point between Corona and Eleven-foot shoals; and the fourth on Whaleback or Peshtigo shoal. Two of these vessels could be provided with power, and the other two could be well cared for by tug service near at hand, or by the vessels having power.

At the last regular meeting of the finance committee of the Lake Carriers' Association Secretary Keep was instructed to take up this matter of lights with the officers of the light-house board, with a view to securing three or four light-ships from the Eleven-foot shoal appropriation of \$60,000. He will also suggest to the board the advisability of making arrangements as soon as possible with Duff & Gatfield to continue the care of the float lights at the Lime-Kilns, in order that the vessel owners may be relieved of this expense.

### In General.

The diving apparatus is one of the latest objects to which the telephone has been applied. A sheet of copper is used in place of one of the glasses in the helmet, and to this a telephone is affixed, so that the diver, when at the bottom of the sea, has only to slightly turn his head in order to report what he sees, or to receive instructions from above.—The Engineer, New York.

The old whaling ship Progress, which has reached Chicago, where she and her outfit will constitute one of the attractions of the world's fair, has something of a history. She has made seventeen trips around Cape Horn without losing so much as a rope yarn, and forty times she crossed the Arctic ocean in quest of whales. In 1869 she sailed from New Bedford for the Arctic, and during her cruise in 1871 came the terrible gale that scattered the fleets of all nations in those waters. Of all the New Bedford fleet the Progress alone survived, and she came home with 300 seamen, seven captains, five women and three children saved from the many wrecks.—Marine Journal, New York.



## Grain at Chicago and Duluth.

Stocks of grain at Chicago and Duluth on Monday, the 22nd inst. were:

	Chicago.		Duluth.
	Wheat, bu.	Corn, bu.	All wheat, bu.
In store.....	5,624,980	4,097,817	1,701,803
Decrease during the week.....			304,437
Increase during the week.....	504,986	267,665	
Increase over same time last year	3,889,967	2,284,671	40,397

In addition to the above there is 1,437,213 bushels of oats, 119,457 bushels of rye and 24,620 bushels of barley in store in Chicago.

## Official Numbers and Tonnage.

The following official numbers were assigned lake vessels by the bureau of navigation, E. C. O'Brien, commissioner, during the week ending August 20: Steam—E. A. Shores, Jr., Milwaukee, built at Sheboygan, Wis., tonnage, gross 519.67, net 396.24, No. 136,315; J. F. Yattow, Chicago, tonnage, gross 73.10, net 36.55, No. 77,049; Pete Gorman, Port Huron, Mich., built at Saginaw, tonnage, gross 60.45, net 35.52, No. 150,600; Schuylkill, Erie, built at Cleveland, tonnage, gross 2,205.83, net 1,819.96, No. 116,526; W. B. Morley, Port Huron, Mich., built at Marine City, Mich., tonnage, gross 1,747.80, net 1,565.05, No. 81,391.

## Elegant New Revenue Cutter.

Special Correspondence to the MARINE REVIEW.

WASHINGTON, D. C., Aug. 25.—In a few days the treasury department will advertise for proposals for the construction of a new revenue cutter for the Baltimore station. The plans, which have been completed, show that she will be the finest craft ever built for the revenue service. In drawing up the plans for the vessel the probability of the early transfer of the revenue marine service to the navy has been kept in view and special attention has been given

to getting up a vessel that will be useful in time of war. She will be, in fact, a miniature naval vessel, carrying a battery of 6-pounder Hotchkiss rapid-fire guns and being well supplied with small arms. She will have a length of 170 feet 8 inches over all and 160 feet on the load water line. Her breadth is to be 27 feet molded, and depth of hold 13 feet 5 inches. Her draft is to be 6 feet 6 inches, with fifty tons of coal in her bunkers. The displacement is to be 412 tons. The hull is to be of iron. She will carry ordinarily a crew of forty men and eight officers, but she will have accommodations for sixty men in case it is desirable to increase her complement to that number. In addition to the cabin for the captain there will be a ward room with eight state rooms opening off it for the subordinate officers. The boat will be rigged as a two-masted schooner. She will be driven by twin screws and will have a maximum speed of about 14 knots an hour.

## From Various Sources.

The tug Brady, owned by Henry McMoran of Port Huron, burned Wednesday morning and is a total loss. She was valued at \$12,000. The crew escaped.

Just \$46,750 a year for ten years is the price to be paid by the Inman line for a dock 718 feet long and 125 feet wide in New York, foot of Vesey street, North river.

A marine draughtsman in one of the prominent ship and engine building establishments on the Clyde has patented a new style of water-tight bulkheads. The idea is to build the bulkheads on the corrugated system, so dispensing with all angle-iron shifting-bars, the curved form of the plates giving the necessary resistance. These corrugations should either be U shaped or V shaped, as required, and it is claimed that the weight will be 15 per cent. less than the ordinary system of construction, and 50 per cent. stronger, without increased cost.

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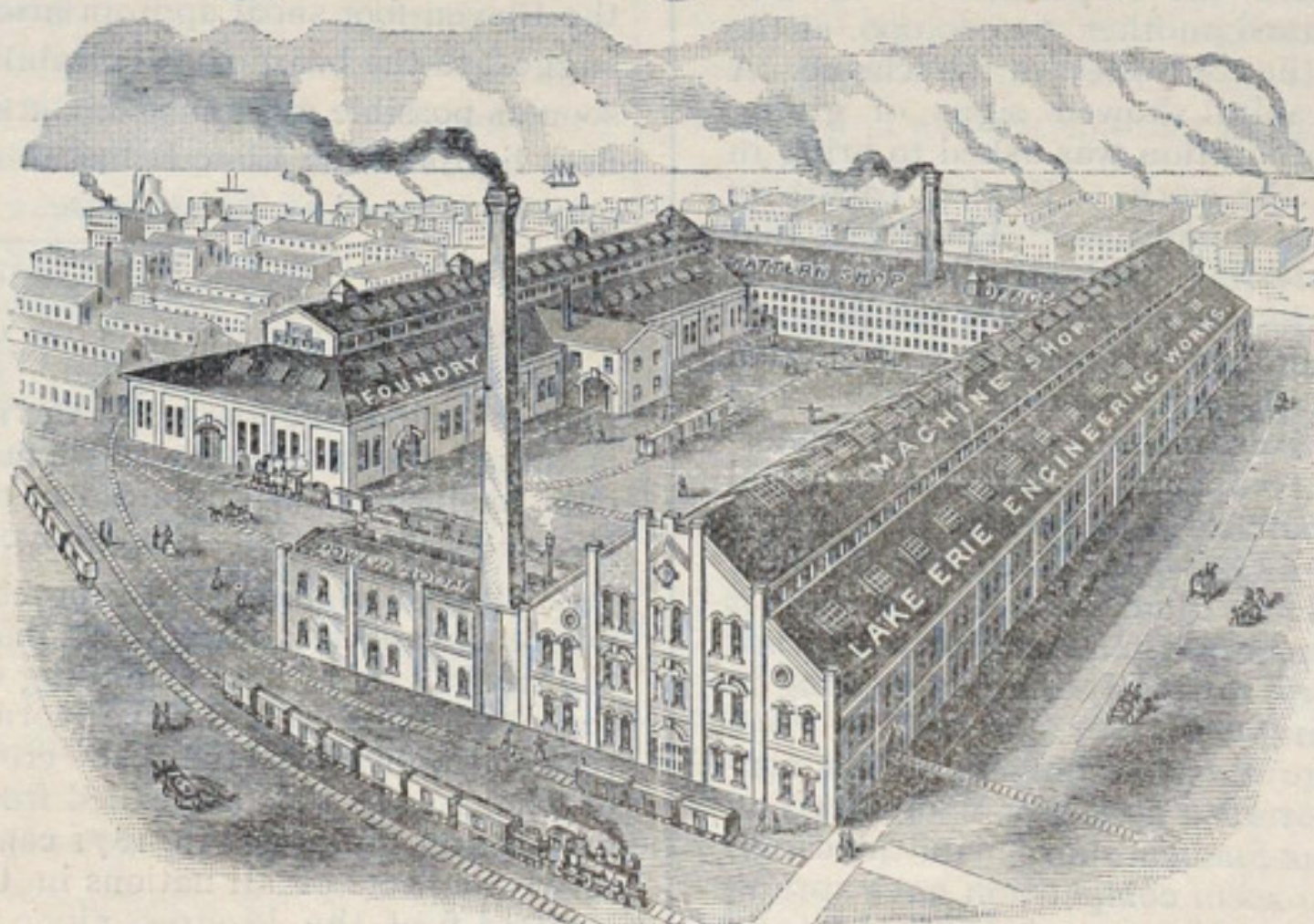
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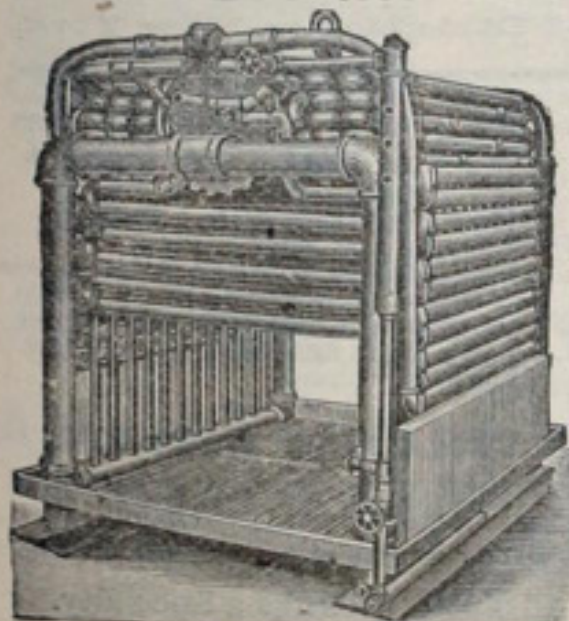
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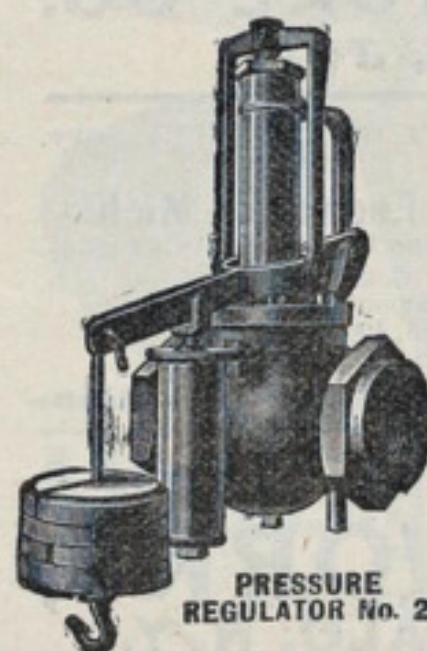
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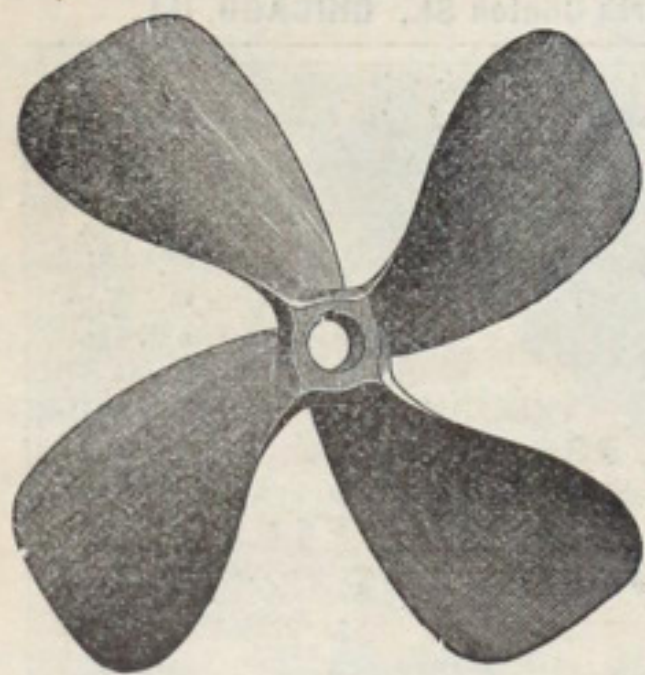
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U. S. ENGINEER OFFICE, Grand Rapids, Mich., August 15, 1892. Sealed proposals for dredging in Frankfort Harbor, Mich., will be received at this office until noon of Saturday, August 27, 1892, and then publicly opened. Specifications, blank forms and all available information will be furnished on application to this office. WILLIAM LUDLOW, Major of Engineers, Bvt. Lieut. Col., U. S. A. Aug. 25.

U. S. ENGINEER OFFICE, 34 WEST CONGRESS ST., Detroit Mich., August 17, 1892. Sealed proposals for: 1, dredging Black River, at Port Huron, Michigan; 2, dredging mouth of Black River, Port Huron, Michigan, will be received at this office until 2 p. m. September 16, 1892, and then publicly opened. Specifications, blank forms and all available information will be furnished on application to this office. O. M. POE, Colonel, Corps of Engineers, etc. Sept. 8.

U. S. ENGINEER OFFICE, DETROIT, MICH., August 16, 1892. Sealed proposals for: 1, dredging bar at mouth of Saginaw River, Mich.; 2, dredging Essexville bar near mouth of Saginaw River; 3, dredging west channel along West Bay City, Mich.; 4, dredging channel of Saginaw River above Bay City, Mich., will be received at this office until 2 p. m., September 15, 1892, and then publicly opened. Specifications, blank forms, and all available information will be furnished on application to this office. O. M. POE, Colonel Corps of Engineers, etc. Sept. 8.

U. S. ENGINEER OFFICE, 366 MILWAUKEE ST., Milwaukee Wis., August 12, 1892. Proposals, Harbor Improvements, Lake Michigan. Sealed proposals for: Green Bay Harbor, Wis., Dredging 120,000 cubic yards, more or less. Sheboygan Harbor, Wis., Pier Extension 200 feet, with Superstructure. Port Washington Harbor, Wis., Pier Extension 200 feet, with Superstructure. Harbor of Refuge Milwaukee, Wis., Extending Breakwater 500 feet, and 300 feet of superstructure. Milwaukee Harbor, Wis., Cutting down and rebuilding 200 feet of Superstructure; repairing 250 feet of piers, and taking out and replacing with new 264 protection piles. Racine Harbor, Wis., Pier Extension 250 feet, and repairs. Kenosha Harbor, Wis., Pier Extension 150 feet. Waukegan Harbor, Ill., Pile Pier, 376 feet. Will be received at this office until 12 o'clock, noon, Monday, September 12, 1892, and then publicly opened. Specifications, blank forms, and all available information will be furnished on application to this office. JAMES F. GREGORY, Major of Engineers, U. S. A. Sept. 8.



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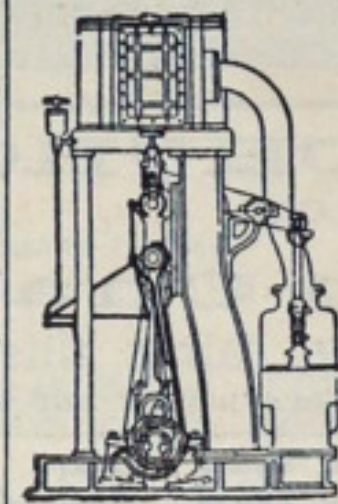
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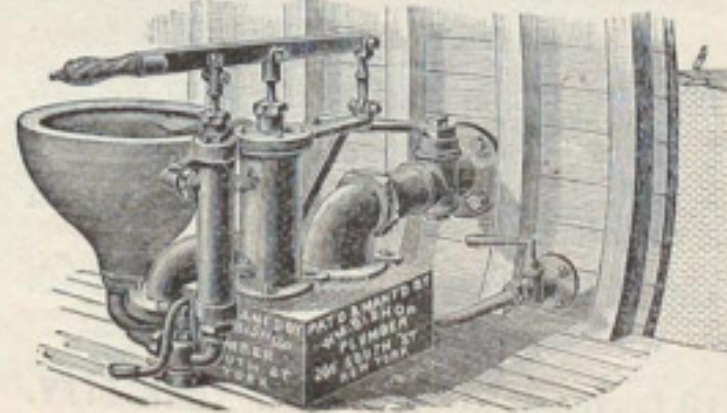
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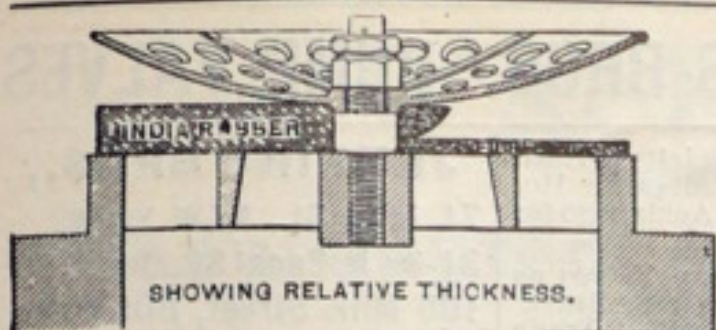


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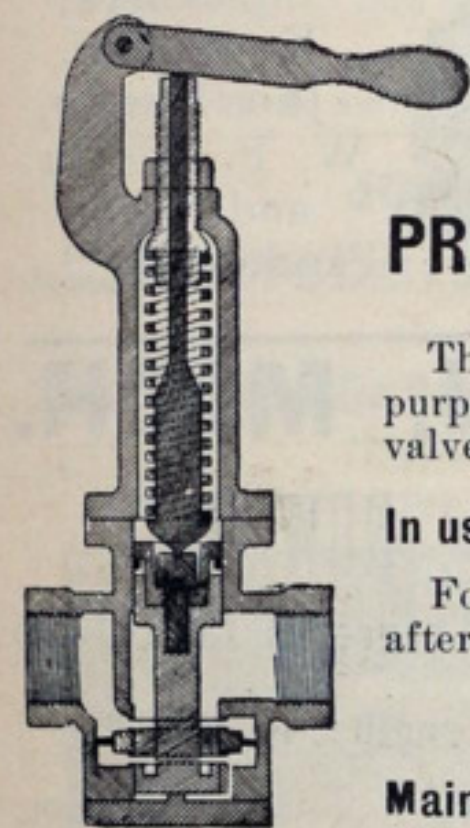
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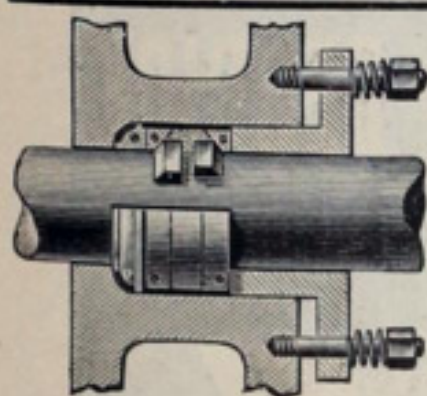


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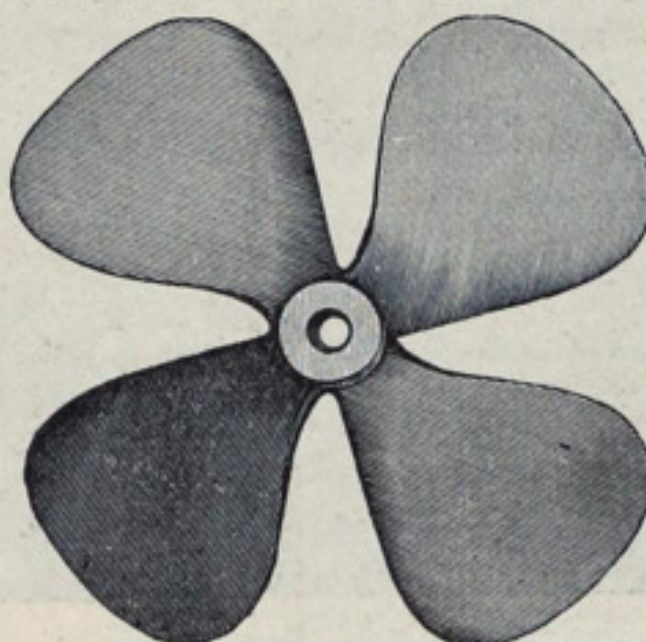
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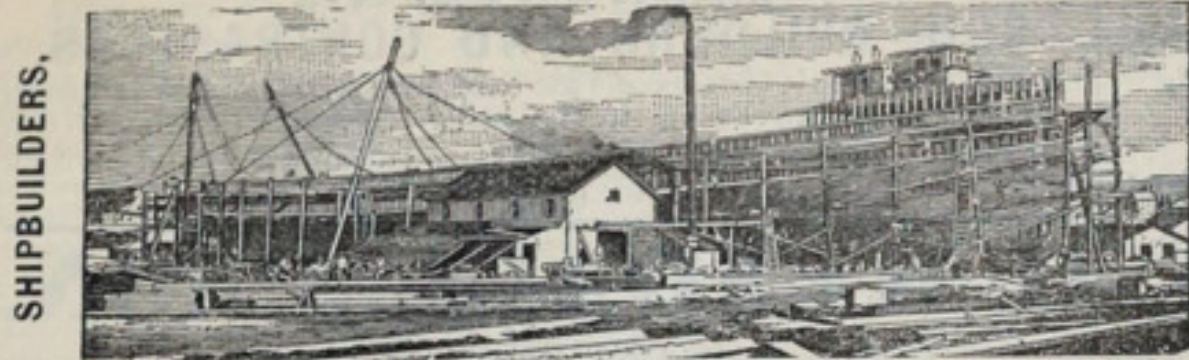
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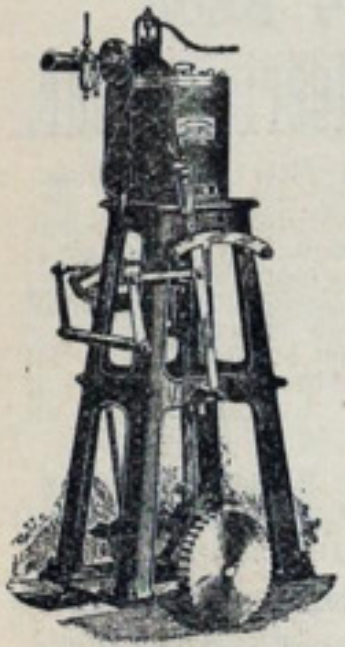
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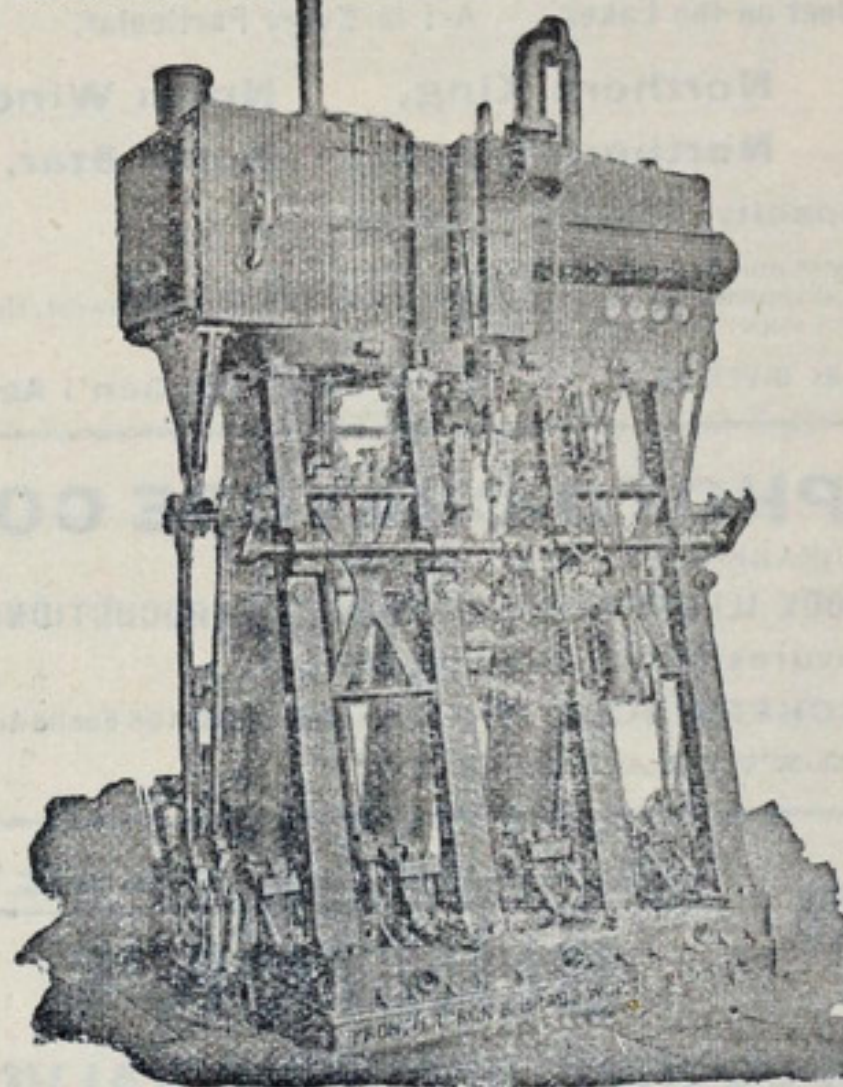
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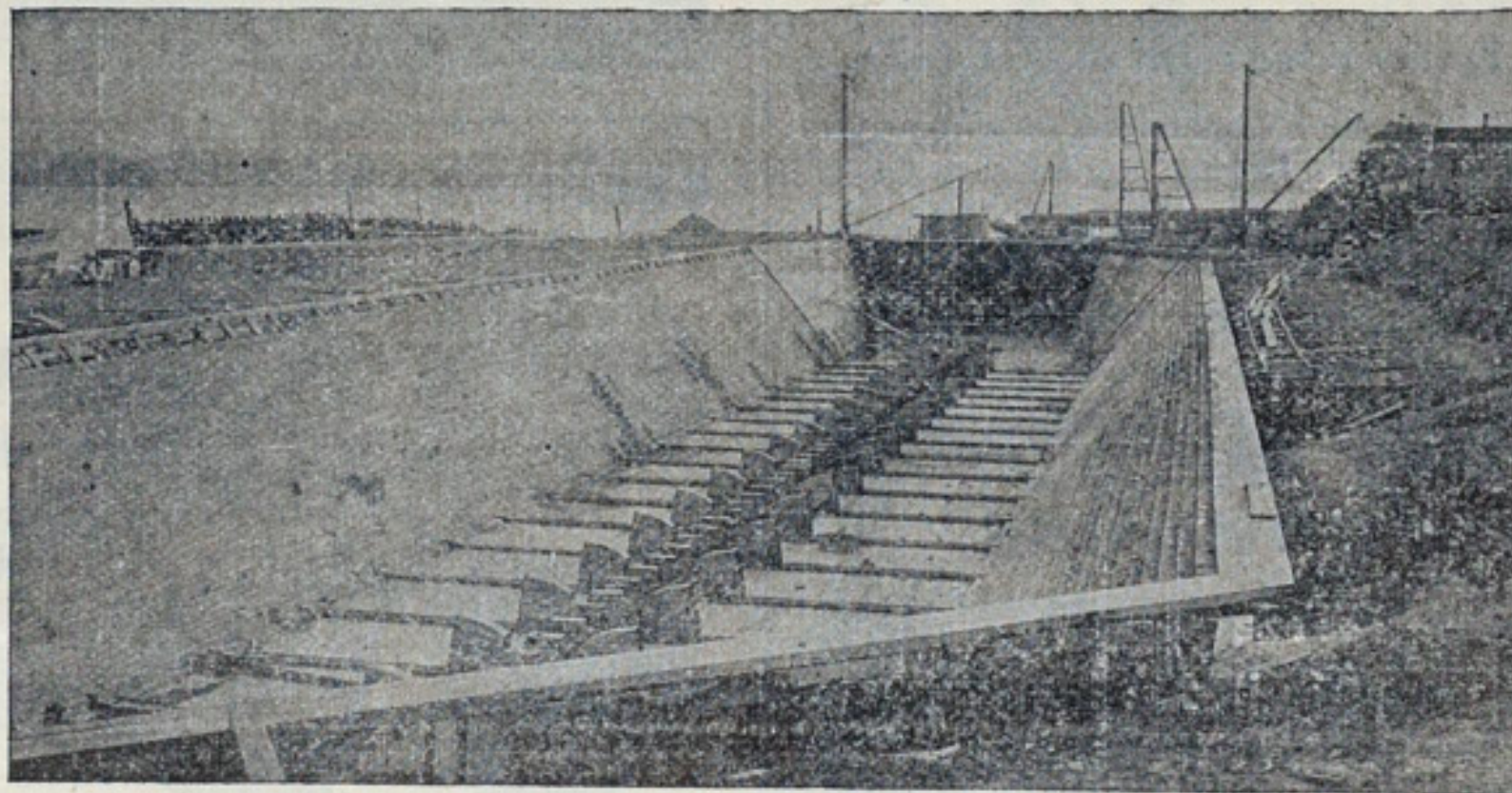
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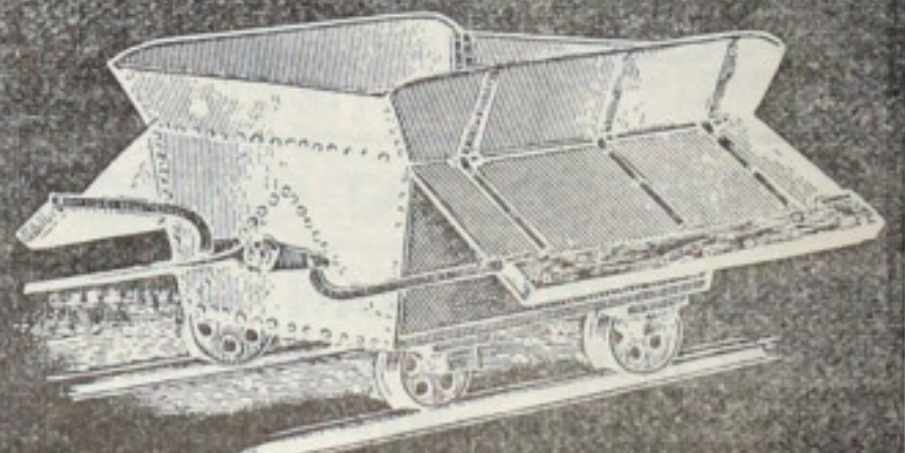
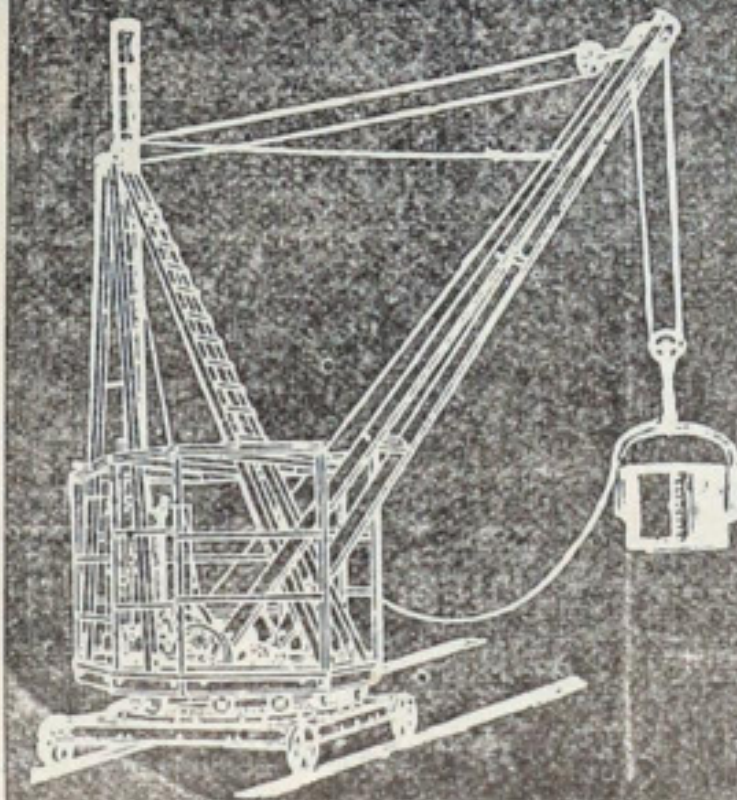
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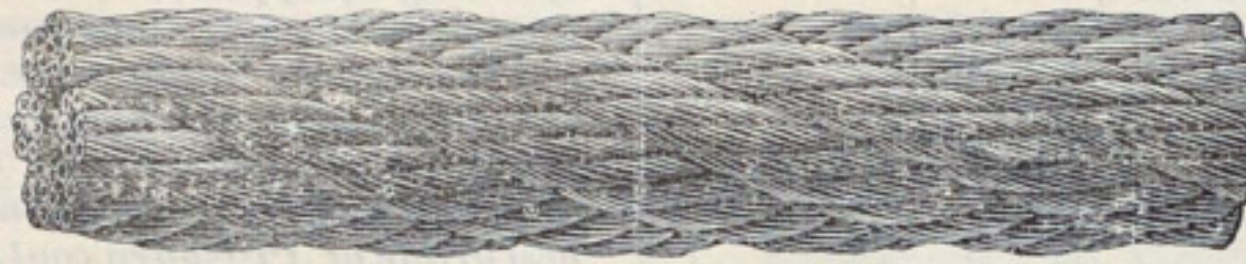
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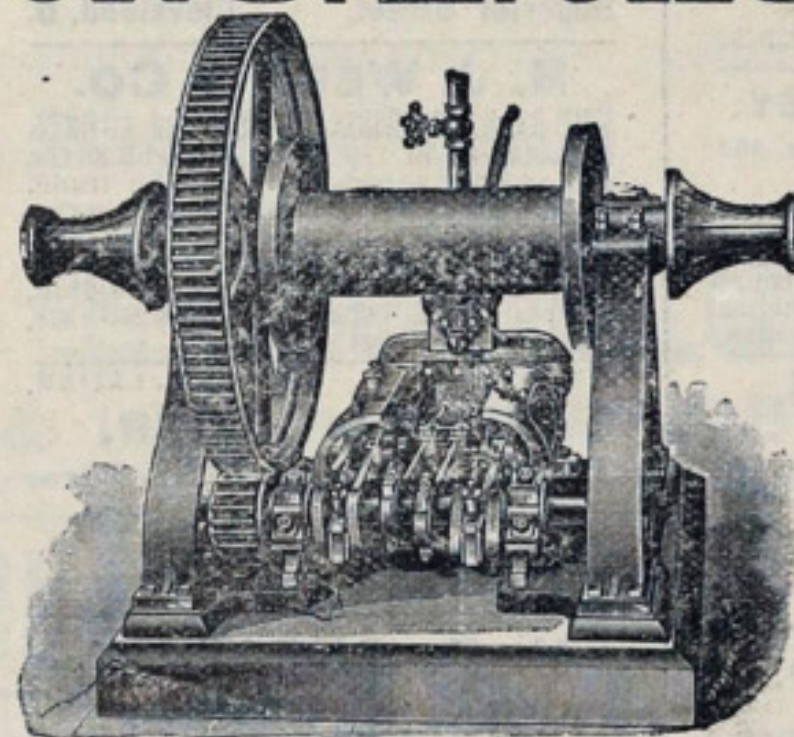
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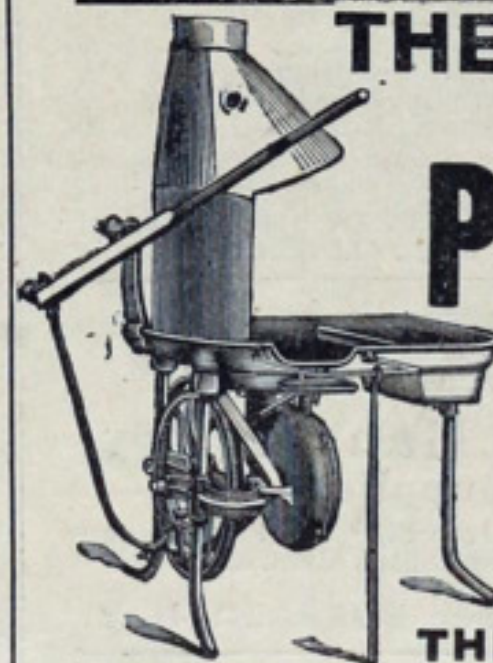
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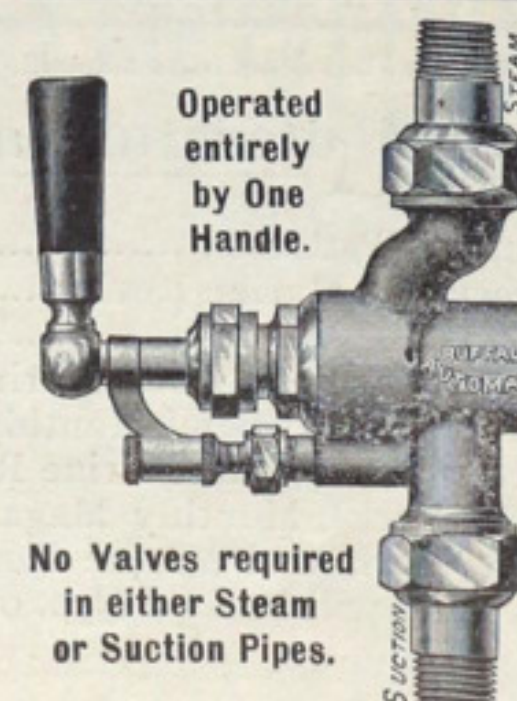
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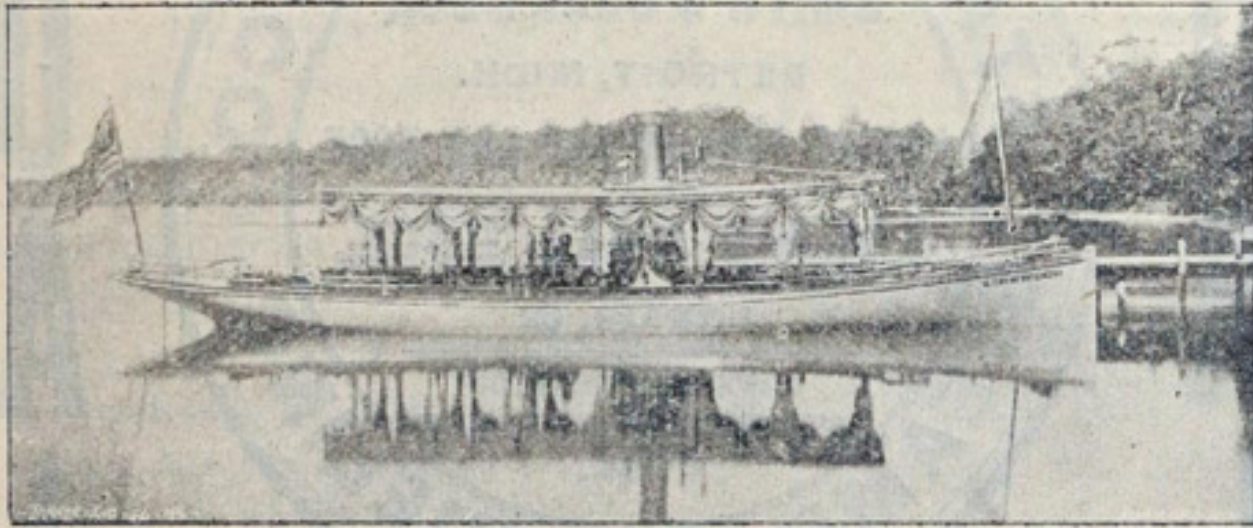
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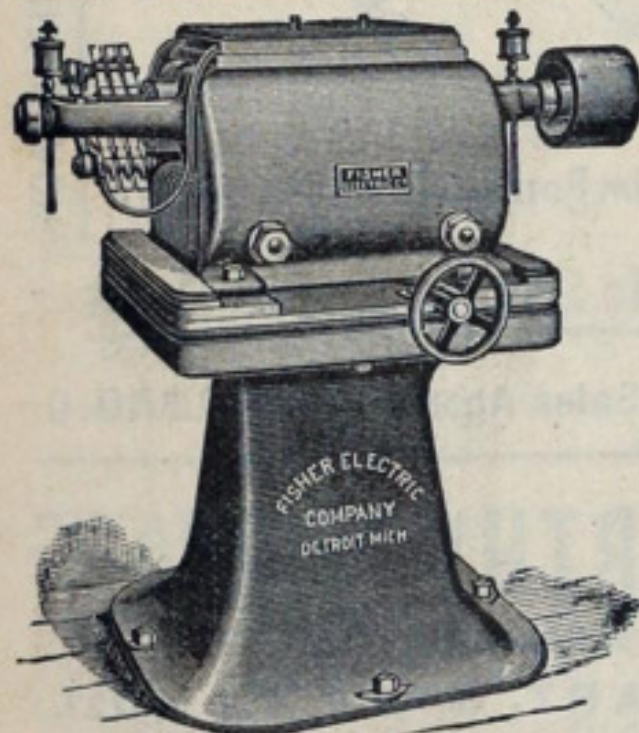
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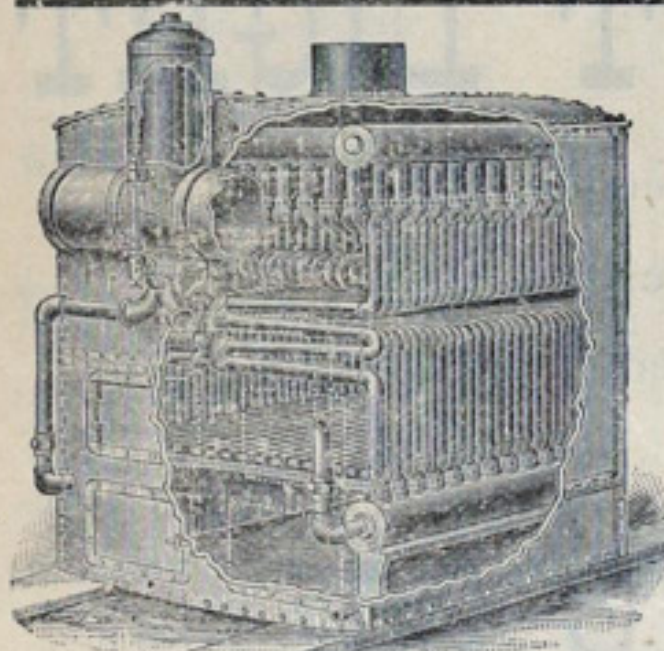
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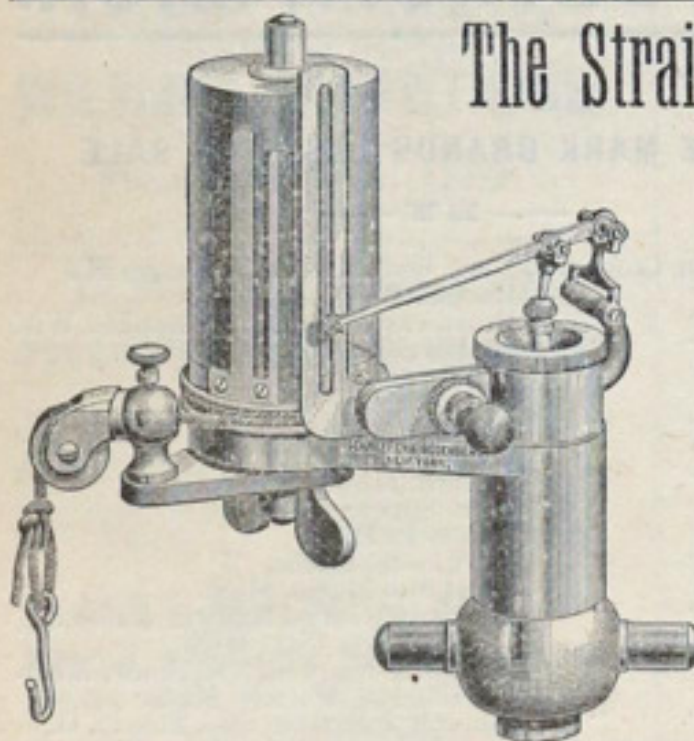
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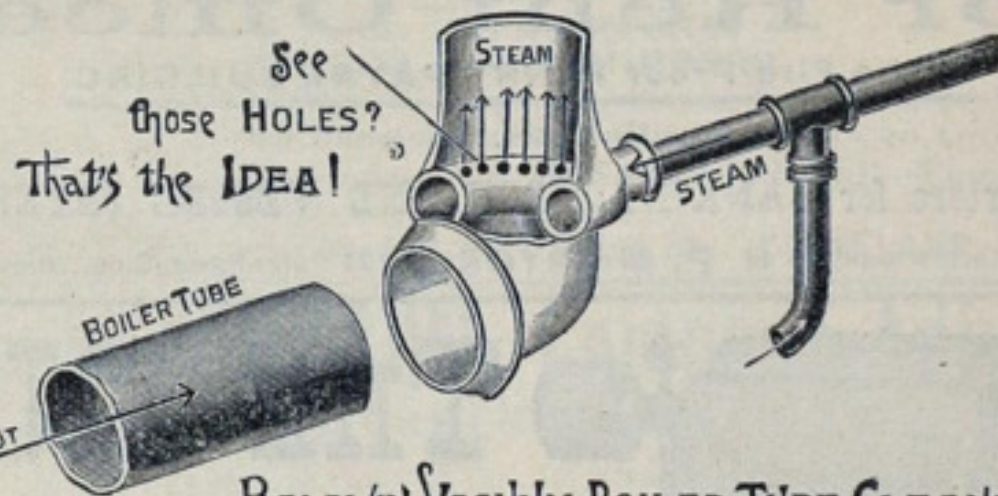
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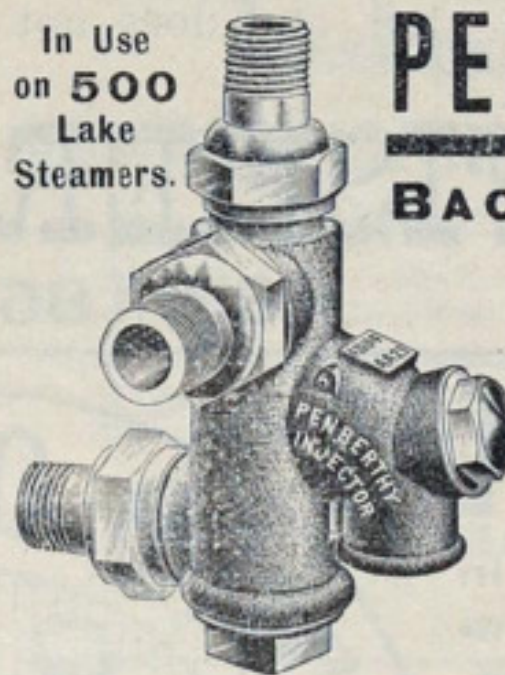
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